

## **IN THE CLAIMS**

This listing of the claim will replace all prior versions and listings of claim in the present application.

### **Listing of Claims**

Claim 1 (canceled).

2. (currently amended) A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory based on the acquired information of one of the application type, the connection destination type, and

the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1, and~~

wherein:

the memory further stores the inactivity timer value for each of the application type, the connection destination type, and the traffic pattern correspondingly to user information; and

wherein the control unit further acquires the user information and sets the inactivity timer value for each user and for each of the application type, the connection destination type or the traffic pattern.

3. (currently amended)A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1, and~~

wherein in a case where a plurality of inactivity timer values are set in a predetermined time, the control unit gives priority to a larger or smaller value, and sets it as the inactivity timer value for a previously fixed period.

4. (currently amended)A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and

a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value, and

when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1,~~

wherein in a case where a plurality of inactivity timer values are set in a predetermined time, the control unit sets an average value of those as the inactivity timer value for a previously fixed period.

5. (currently amended) A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1, and~~

wherein:

the application type is for identifying an application used in communication with the mobile station as one for an internet or one for a WAP; and

in a case where the application type is the internet, the control unit sets, as the inactivity timer value, a period longer than that for the WAP.

6. (currently amended) A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1, and~~

wherein port information included in a TCP header or a (MP header is used as the information of the application type or the connection destination type.

7. (currently amended)A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1, and~~

wherein:

the traffic pattern indicates contract information of the mobile station in a connected state; and

the control unit sets the inactivity timer value according to the contract information of the mobile station.

8. (currently amended)A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;



a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and  
an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station.

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value.

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A radio base station/radio base station controller according to claim 1,~~

wherein:

the traffic pattern indicates a past communication amount of the mobile station; and

the control unit sets the inactivity timer value according to the past communication amount.

9. (currently amended) A radio base station/radio base station controller for carrying out communication with a mobile station by using a radio channel, comprising:

a control unit for controlling a connected state in which the radio channel for carrying out communication with the mobile station is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;

a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and

an inactivity timer for starting to count up in response to reception of a packet from the mobile station or transmission of a packet to the mobile station,

wherein in a case where the radio base station/radio base station controller transmits or receives data to or from the mobile station, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant stateA-radio-base-station/radio-base-station controller according to claim-1, and

wherein:

the traffic pattern indicates a past communication content of the mobile station; and

the control unit sets the inactivity timer value according to the past communication content.

Claim 10 (canceled).

11. (currently amended) A mobile station for carrying out communication with a radio base station/radio base station controller by using a radio channel, comprising:

- a control unit for controlling a connected state in which the radio channel for carrying out communication with the radio base station/radio base station controller is secured and a dormant state in which a call is brought into a suspended state and the radio channel is disconnected;
- a memory for storing an inactivity timer value as a timing when the connected state is changed to the dormant state, according to one of an application type, a connection destination type, and a traffic pattern; and
- an inactivity timer for starting to count up in response to reception of a packet from the radio base station/radio base station controller or transmission of a packet to the radio base station/radio base station controller,

wherein in a case where the mobile station transmits or receives data to or from the radio base station/radio base station controller, the control unit acquires information of one of the application type, the connection destination type, and the traffic pattern in the transmitted or received data,

wherein the control unit refers to the memory on the basis of the acquired information of one of the application type, the connection destination type, and the traffic pattern to obtain an inactivity timer value and sets the inactivity timer value,

wherein when a count value of the inactivity timer reaches the set inactivity timer value, the control unit carries out a control to change the connected state to the dormant state~~A mobile station according to claim 10,~~  
and

wherein:

the mobile station transmits a configuration request to the base station/base station controller;

the base station/base station controller transmits a configuration response including a held correspondence table of the inactivity timer value with respect to one of the application type, the connection type, and the traffic pattern to the mobile station; and

the mobile station receives the configuration response and stores the correspondence table in the memory.

Claims 12 and 13 (canceled).